

Serial No. 10/509,370

Amendment Dated: February 1, 2006

Reply to Office Action Mailed: September 1, 2006

Attorney Docket No. 101249.55459US

REMARKS

Claims 1-15 are canceled and new Claims 16-72 are added. No new matter has been added. Reconsideration of the Office Action mailed September 1, 2005 is respectfully requested.

Initially, Applicants submit that the claim objections set forth in paragraph 2 of the Office Action, and the claim rejections set forth in paragraphs 4, 18 and 21 of the Office Action, have been rendered moot by the cancellation herewith of Claims 1-15.

Independent Claims 16 and 25 relate to processes for forming insulating films, comprising a first step of cleaning a substrate with plasma based on a first process gas comprising at least a rare gas, and a second step of forming an oxide film (Claim 16) or a nitride film (Claim 25) using plasma and a second process gas comprising at least a rare gas and oxygen (or nitrogen), wherein the first and second steps are conducted under the same operation principle.

Independent Claim 66 relates to a semiconductor device manufacturing system for conducting a process for forming an insulating film on the surface of a substrate comprising, *inter alia*, a plasma processing unit adapted to conduct a first step of cleaning the substrate with plasma, and a second step of oxidizing or nitriding the substrate with plasma to thereby from an oxide or nitride film thereon, wherein the first and second steps are conducted under the same operation principle.

As disclosed on page 33, lines 22-32 of the specification, by conducting the various process steps in reaction chambers using the same principle of operation, it is possible to form insulating films with high efficiency and minimal cross-contamination between apparatuses.

The combination of references fails to teach or reasonably suggest all of the claim limitations. As set forth in paragraph 19 of the Office Action, Ohmi does not disclose a process comprising a cleaning step using a rare gas plasma. Ohmi discloses only that a silicon substrate can be cleaned via an HF or RCA etch (see paragraphs 104 and 105). Wolf merely teaches that wafer cleaning is desired, yet complex. Mintz discloses that a plasma wafer cleaning process can use gases such as argon, hydrogen and gas mixtures that include a fluorine-containing gas (see column 6, lines 15-23).

None of the cited references teach or suggest the a process for forming an insulating film comprising a first step of cleaning a substrate with plasma based on a first process gas comprising at least a rare gas, and a second step of either oxidizing or nitriding the substrate with plasma based on a second process gas comprising at least a rare gas and oxygen (or nitrogen), wherein the first and second steps are conducted under the same operation principle.

It is submitted that the difference between the claimed subject matter and the prior art are such that the claimed subject matter, as a whole, would not

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have been obvious at the time the invention was made to person having ordinary skill in the art.

In view of the foregoing, the application is respectfully submitted to be in condition for allowance, and prompt favorable action thereon is earnestly solicited.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #101249.55459US).

Respectfully submitted,

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